

SPECIFICATION

Attorney's

Docket No. **0461M-001**

TO WHOM IT MAY CONCERN:

BE IT KNOWN that I, **HOWARD W. LISBY, Jr.**, a citizen of the United States residing in **Fort Worth**, Texas, have invented new and useful improvements in a

GOLF BALL RETRIEVAL AND BALL MARK REPAIR TOOL

of which the following is a specification.

BACKGROUND OF THE INVENTION

1. Field of the Invention:

This invention relates generally to golf club accessories, and specifically to golf ball retrieval tools. More specifically it relates to a golf ball retrieval tool which doubles as a ball mark repair tool and a spacer for keeping the club grip clean and dry when the club must be laid on the ground.

2. Description of Related Art:

Any golfer is familiar with the number of times one must bend over to retrieve a golf ball, for example, once it is holed or when it must be moved to allow other players to continue play on the green. Bending also is required to repair ball or club impact marks made to the soft surface of the putting green or divots on the fairway. Playing 18 holes of golf can result in bending for these activities in excess of sixty times. For some golfers, this represents a physical burden which might prevent them from playing. At least for such golfers, a need exists for means to reduce the number of times they must bend and stoop during a round of golf.

Putting greens and the surfaces near them often are very soft and cannot support the weight of a golf cart. In route on foot to the putting green, a golfer often brings two or more clubs if the golf ball is not yet on the putting green surface, a putter and at least one additional club. While using one of the clubs, a golfer must put the other aside, typically by simply laying it on the ground nearby. Preferably the club grip should remain clean and dry, but it is common for the area near the putting green to be wet from watering, rain or morning dew. A need exists for means for keeping the grip from contacting the ground when a club is laid on the ground.

A number of different types of golf ball retrievers are available, including some that attach to a club grip. Some include a spring device intended to grasp the golf ball, while

1 others use a scoop to contain the ball. With most of these devices, however, it is difficult to
2 secure the ball to start the lifting process or to release the ball once it is lifted. Very few
3 include a ball mark repair tool or appear to be intended to help keep a club grip clean.

4 SUMMARY OF THE INVENTION

5 Accordingly, it is an object of this invention to provide a tool or accessory for
6 retrieving a golf ball.

7 It is another object of this invention to provide a tool or accessory for repairing a golf
8 ball mark made on the playing surface without the need to stoop to do so.

9 It is another object of this invention to provide a tool or accessory to prevent the grip
10 of a golf club from contacting the ground when the club is laid horizontally.

11 It is yet another object of this invention to provide a tool attached to the grip of the
12 club itself for ball retrieval, ball mark repair and for keeping the grip off the ground.

13 The foregoing and other objects of this invention are achieved by providing a tool
14 mounted to the end of a golf club or other handle, the tool serving as means for retrieving a
15 golf ball, for repairing a golf ball or club mark on the playing surface and for preventing the
16 club grip from contacting the ground when the club is laid horizontally. The tool comprises
17 a head detachably connected to the grip end of a golf club. In a preferred embodiment, the
18 head includes a tang which fits into a slotted plug in the end of the club shaft under the grip.
19 In an alternate embodiment, the head includes a yoke that cups over the outer radius of the
20 golf club grip and is held in place by an external strap. The head has three flat surfaces
21 serving as a shelf for lifting the golf ball and two walls forming a corner for the ball to rest
22 against and for keeping the ball captive during the retrieval process. Two prongs protrude
23 from the shelf for repairing ball marks. These two prongs or the body of the tool also serve
24 to hold the grip off the ground when the club is laid horizontally.

BRIEF DESCRIPTION OF THE DRAWINGS

The novel features believed characteristic of the present invention are set forth in the appended claims. The invention itself, however, as well as a preferred mode of use and further objects and advantages thereof, will best be understood by reference to the following detailed description of an illustrative embodiment when read in conjunction with the accompanying drawings, wherein:

Figure 1 depicts a golf club with a preferred embodiment of the ball retrieval tool of the present invention installed into the end of the grip.

Figure 1A depicts in perspective the preferred embodiment of Figure 1 prior to installation into the end of the grip.

Figure 2 shows, as indicated in Figure 4, the grip end of the club in Figure 1.

Figure 3 details in cutaway view, as indicated in Figure 4, the preferred embodiment of the golf ball retrieval tool of Figure 2 installed in an alternate manner in the grip end of the club.

Figure 4 is a transverse cross section through the grip end of a golf club, as indicated in Figure 3, with the preferred embodiment of Figure 2 installed therein.

Figure 5 shows, viewed as indicted in Figure 7, an alternate embodiment of the present invention, wherein the golf ball retrieval tool is attached to the exterior of the club grip with an attachment strap.

Figure 6 shows the alternate embodiment of Figure 5 viewed as indicated in Figure 7.

Figure 7 is a transverse cross section through the grip end of a golf club, as indicated in Figure 6 and showing the alternate embodiment of Figure 5 installed thereon.

1 Figures **8A** and **8B** depict in cross section a flag cup in which the preferred
2 embodiment is employed to retrieve a ball.

3 Figure **9** shows a golfer preparing to lift a golf ball out of a hole, as detailed in
4 Figures **8A** and **8B**, using the present invention.

5 Figure **10** is a depiction similar to Figure **9** showing use of the present invention to
6 repair a club divot or ball mark.

7 Figure **11** details the steps in using the present invention to repair a club divot or ball
8 mark, as depicted in Figure **10**.

9 Figures **12** and **13** show use of the preferred and alternate embodiments of the present
10 invention to hold the club grip off the ground where the club is laid horizontally.

11 DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

12 With reference now to the figures, and in particular to Figures **1**, **1A**, **2** and **3**, club **23**
13 is shown comprising shaft **25** having head **27** on one end and grip **21** on its opposite end.
14 Tool **1** is shown installed into grip **21** end of club **23** substantially coaxial with axis **A** of
15 shaft **25**. It will be noted here and further discussed below that tool **1** as depicted in Figure **1**
16 lies substantially within a projected profile (not shown) of the sides of grip **21**. Also, club **23**
17 is depicted in Figure **1** as a type of golf club known as a putter, but one having ordinary skill
18 in the art will recognize that club **23** could be any club used by or commonly available to
19 golfers, or alternatively, club **23** could be a specialized handle dedicated to tool **1**. As
20 hereinafter used, references to club **23** shall mean any such handle means adapted to be
21 employed with either embodiment of the present invention.

22 Tool **1** comprises body **3** extending substantially coaxially from the end of grip **21**.
23 Tool **1** further includes shelf **7** disposed on the end of body **3** distal grip **21** and substantially
24 at a right angle to body **3**. Backstop **13** is disposed at one end of shelf **7** and at a substantially

1 right angle to both shelf 7 and body 3, thereby forming with them an interior, three-sided
2 corner. One having ordinary skill in the art also will recognize that this three-sided corner
3 comprises means for receiving and retaining a golf ball when club 23 is inverted (see Figure
4 9), thus positioning tool 1 beneath shaft 25 such that the ball rests on shelf 7 and against
5 body 3 and backstop 7.

6 Gap 8 is shown between backstop 13 and body 3 and having a width substantially
7 smaller than backstop 13 or body 3. The width of gap 8 is somewhat a matter of expediency
8 and convenience, but it is chosen with two constraints in mind. First, it must be smaller than
9 the diameter of a golf ball, obviously so that the golf ball cannot pass through gap 8.
10 Secondly, gap 8 preferably is wide enough that it is adapted temporarily to receive storage
11 means such as a strap or belt loop. This allows golfer 35 to remove tool 1 while using club
12 23 and to clip tool 1 onto a golf bag strap or his belt (neither shown) by inserting the strap or
13 belt into gap 8, thus keeping tool 1 handy for use once golfer 35 needs it. Thus, within these
14 constraints, gaps of any size are considered within the scope of the present invention.

15 Extending opposite backstop 13 from shelf 7, a plurality of prongs 9 form fork 10, a
16 projection used for repairing ball marks. Shown as substantially in the same plane as shelf 7,
17 each of two prongs 9 preferably extends approximately two (2") inches and tapers to a point.
18 Prongs 9 thus rather easily penetrate the ground beneath a ball mark, enabling golfer 35 to lift
19 the compressed earth below said ball mark without causing significant damage from the
20 penetration by prongs 9. One having ordinary skill in the art will recognize that various
21 configurations of fork 10 may be employed within the spirit and scope of the invention.

22 With further reference to Figures 1A, 2, 3 and 4, body 3 is shown coupled to shaft 25
23 by way of a narrowed portion, or tang 5 frictionally and snugly received within slot 19 of
24 plug 17. Tang 5 is illustrated in the figures as having a substantially rectangular cross section
25 with semicircular opposite ends, but may comprise other cross sections, including use of
26 multiple tangs (not shown), without departing from the spirit and scope of the present
27 invention. In the preferred embodiment, tang 5 preferably fits snugly enough within slot 19
28 that no further securing means are necessary, yet tool 1 easily may be removed from shaft 25

1 with reasonable axial force. One having ordinary skill in the art will recognize, however, that
2 any securing or coupling means are within the spirit and scope of the present invention.

3 Hollow interior 26 of shaft 25 typically has a circular cross section and may have
4 parallel walls resulting in a regular cylinder shape, or it may be conically shaped if shaft 25
5 tapers from grip 21 to head 27. Interior 26 also may have non-circular cross sections (not
6 shown), such as rectangular or square, usually where the exterior of shaft 25 so varies.
7 Finally, shaft 25 may be solid and have no interior 26 (not shown), in which case slot 19 is
8 formed directly into the end of shaft 25. One having ordinary skill in the art will recognize
9 that any and all such variations in shaft 25 are considered within the spirit and scope of the
10 present invention, with concomitant variations resulting in plug 17.

11 Within interior 26 at grip 21 end of shaft 25, plug 17 comprises a prefabricated
12 cylinder of solid but malleable material, preferably wood or plastic, into which slot 19 is
13 formed. Plug 17 has a diameter adapted to fit tightly enough within interior 26 of shaft 25
14 that said reasonable axial withdrawing force employed to remove tang 5 from slot 19 does
15 not move plug 17 within interior 26. If necessary to achieve this result, adhesive may be
16 employed between plug 17 and interior 26. Alternately, plug 17 may comprise an epoxy or
17 other admixture poured into interior 26 at the end of shaft 25, with either a removable block
18 to create slot 19, or with slot 19 later being drilled into plug 17 after the admixture sets. In
19 any case, plug 17 must be tight enough within shaft 25 that it cannot easily be shoved further
20 into interior 26 by insertion of tang 5 into slot 19.

21 One means of assuring this is for plug 17 to include cap 18 which has an outside
22 diameter larger than the interior of shaft 25, preferably substantially equal to the outside
23 diameter of shaft 25. When golfer 35 inserts tang 5 into slot 19 and pushes it axially into grip
24 21, cap 18 bears against the end of shaft 25 and prevents plug 17 from moving. One having
25 ordinary skill in the art will recognize that cap 18, in combination with frictional or adhesive
26 contact between grip 21 and shaft 25, allows some tolerance in the fit between plug 17 and
27 interior 26. This has the advantage of permitting plug 17 easily to be removed if necessary
28 once grip 21 is removed from club 23.

1 Turning again to tool **1** as shown in Figures **1** and **3**, a slight offset is apparent in body
2 **3** between shelf **7** and grip **21**. This offset serves to position shelf **7** and backstop **13** slightly
3 askew from axis **A** of shaft **25**. Such offset abets the following advantages.

4 As mentioned above, Figure **1** shows tool **1** installed into shaft **25** oriented such that
5 it projects substantially within a projected profile of grip **21**. In Figure **3**, however, tool **1**
6 does not lie within such projected profile of grip **21**, but is offset to one side of grip **21**,
7 partially due to the offset in body **3** described above. Tool **1** thus may be installed in either
8 of two orientations that are 180 degrees apart based on golfer **35**'s preference. Such
9 preference would depend upon which way golfer **35** wished the above described three-sided
10 corner to face, largely defined by which way golfer **35** found it easier to use tool **1** or by
11 whether golfer **35** is left or right handed. Experiments have shown that some golfers prefer
12 better visibility of the golf ball and tool **1** gained by the orientation shown in Figure **3**, while
13 others prefer the sleeker profile of the orientation of Figure **1**.

14 Tool **1** preferably is fabricated from a single piece of flat, one-eighth (1/8") inch sheet
15 steel, cut with the profiles of its component parts, tang **5**, body **3**, shelf **7**, backstop **13** and
16 prongs **9** and bent at the joinder points of those components. This size of steel is chosen for a
17 preferred balance of rigidity and light weight, but one having ordinary skill in the art will
18 recognize that other combinations of thickness of steel may be substituted. One having
19 ordinary skill in the art also will recognize that tool **1** could be fabricated from separate
20 components later attached as described. Further, tool **1** alternately could be molded as a
21 single object from a thermoset plastic such as styrene or cross-linked polyethylene having
22 rigidity comparable to the preferred sheet steel specified while being considerably lighter and
23 less expensive to fabricate.

24 Turning now to Figures **5**, **6** and **7**, an alternate embodiment of the present invention,
25 tool **101**, is depicted which couples to the outside of grip **21**. This alternate embodiment
26 allows golfer **35** to attach tool **101** to any golf club **23** without the need to modify the club in
27 any manner.

1 As with the preferred embodiment described above, tool 101 comprises body 103
2 having shelf 107 disposed on one end thereof distal grip 21. Backstop 113 is disposed on one
3 end of shelf 107 perpendicular to both shelf 107 and body 103, forming gap 108. Prongs 109
4 extend substantially coplanar with shelf 107 opposite backstop 113. These features are
5 configured and used in similar fashion as described above for corresponding features of the
6 preferred embodiment, and will not be discussed again except as they deviate therefrom.

7 Unlike the preferred embodiment, tool 101 does not include tang 5 for fitting within
8 plug 19 within shaft 25. Instead, body 103 extends longitudinally away from shelf 107 to
9 form shank 105. Attached to shank 105 is strap 118 which wraps around grip 21 and fastens
10 with fastener 114 to hold shank 105 against one side of grip 21. Preferably, shank 105
11 comprises a continuous extension of body 103, also preferably made from one piece of sheet
12 metal as are shelf 107, backstop 113 and prongs 109. Shank 105 may be flat or
13 longitudinally concave (not shown) to better fit the curvature of the side of grip 21.

14 Attachment strap 118 is layered approximately one and one half turns around grip 21
15 and coupled with fastener 114. Strap 118 comprises a flexible fabric type material,
16 preferably leather, with fastener 114 stitched to strap 118. Fastener 114 preferably comprises
17 hook and loop strips commonly known as VELCRO, but one having ordinary skill in the art
18 will recognize that fastener 114 also could be snaps, buttons, string ties or other commonly
19 available fastening means without departing from the spirit and scope of the invention.

20 Coupled to one side of body 103 opposite shelf 107, yoke 117 has a generally U-
21 shaped mouth 120 between sidewalls 121 and opposite bottom 123, yoke 117 thereby
22 opening away from shelf 107 and toward grip 21. Yoke 117 presses onto the end of grip 21
23 to affix the axial position of tool 101 on club 23. Yoke 117 couples to body 103 by tongue
24 119 which attaches to body 103 by welding, adhesive or other known means. Preferably,
25 yoke 117 and tongue 119 also are fabricated from a single piece of sheet steel, as are body
26 103, shelf 107, backstop 113 and prongs 109. One having ordinary skill in the art will
27 recognize, too, that tool 101 may be fabricated from other materials, just as may be tool 1,
28 such as molded plastic or the like, without departing from the spirit and scope of the
29 invention.

1 As best seen in Figure 7, shank 105 lies against a flat surface depicted for grip 21.
2 Not all golf club grips are so shaped, however, some being substantially oval or circular
3 (neither shown). Unlike tool 1 of the preferred embodiment, which can fit into almost any
4 shaft 25, for tool 101 of the alternate embodiment to be universally useful, it must
5 accommodate a majority of grips of various sizes and shapes or be made in a myriad of
6 configurations itself. Accordingly, yoke 117 is selected with just such motive in mind.
7 Specifically, as shown in Figure 6, yoke 117 extends perpendicular to body 103 substantially
8 the width of grip 21, thereby substantially receiving the end of grip 21 within mouth 120.
9 Preferably, mouth 120 opens to a width of one and one-fourth (1 1/4") inch, and sidewalls
10 121 converge to a width of three-fourths (3/4") inch at bottom 123. Thus, mouth 120 of yoke
11 117 as shown is shaped to accommodate most of the myriad of golf club grips available.
12 Shank 105 then is laid parallel and against the outer surface of grip 21 and positioned so that
13 yoke 117 is firmly pressed against grip 21. Attachment strap 118 is coupled to shank 105 and
14 wrapped around the circumference of the combination of grip 21 and shank 105, as discussed
15 above.

16 As shown in the figures and described above, tool 101 is configured with prongs 109
17 extending leftward as viewed in Figure 5. One having ordinary skill in the art will recognize,
18 however, that tool 101 just as easily could be arranged such that prongs 109 extend rightward
19 in Figure 5, thus allowing for either a righthanded" or "lefthanded" tool 101, depending on
20 the golfer's preference. Unlike the preferred embodiment discussed above, however, which
21 may be reversed for lefthandedness or righthandedness by simply rotating tool 1 180 degrees,
22 tool 101 requires that each type be fabricated separately. This is because simply moving
23 shank 105 to the opposite side of grip 21 not only reverses the direction of prongs 109, but it
24 also relocates them to the other side of grip 21. This further has the effect of merely
25 reversing the position of club 23 head 27 and nothing more. Such relocation can render use
26 of tool 101 much more awkward than tool 1 so reversed because of the distance shelf 107 is
27 displaced from the other position. Though not depicted, this opposite arrangement will be
28 recognized by one having ordinary skill in the art as being within the spirit and scope of the
29 present invention.

1 In operation, tools 1, 101 are used to lift golf ball 31 from cup 33 without golfer 35
2 stooping, to repair ball marks and to keep grip 21 clean and dry. As discussed in the sections
3 that follow for tool 1, the principles of operation apply equally to tool 101 because they
4 operate similarly. Where they differ, separate mention of tool 101 will be included.

5 Referring to Figures 8A, 8B and 9, golfer 35 first holds club 23 upright (not shown)
6 and installs the invention onto grip 21 as discussed above for tool 1 or tool 101. Golfer 35
7 then inverts club 23 and lowers tool 1 into cup 33 adjacent golf ball 31 (Figure 9). As tool 1
8 moves to the bottom of cup 33 (Figures 8A, 8B), it pushes ball 31 to one side until it clears
9 shelf 7, whereupon it rolls onto shelf 7. With a slight tilting motion of club 23, golfer 35
10 positions ball 31 onto shelf 7 resting against body 3 and backstop 13 (Figure 8B). Golf ball
11 31 then can be lifted out of cup 33 in this captive state. Continuing to lift club 23 until he can
12 reach ball 31 with his free hand (not shown), golfer 35 thereby retrieves ball 31 from cup 33
13 without stooping.

14 Turning now to Figures 10 and 11, tool 1's use to repair a ball mark is depicted.
15 Assuming tool 1 already is installed, golfer 35 inverts club 23 and holds head 27 in one or
16 both hands. Positioning prongs 9 adjacent ball mark 37, golfer 35 tilts club 23 slightly away
17 from himself to angle prongs 9 downward into ground 29. Golfer 35 then pushes backstop
18 13 with his toe 39 to force prongs 9 into ground 29 until they extend beneath ball mark 37.
19 Next, golfer 35 rotates club 23 shaft 25 toward himself (phantom lines in Figure 11) to cause
20 prongs 9 to lift the earth beneath ball mark 37 until it bulges slightly (not shown) above the
21 level of ground 29. Golfer 35 then may tamp the earth now bulging above ball mark 37 as
22 necessary to return it to the level of ground 29, thus eliminating ball mark 37. The entire
23 operation thus can be performed from a standing or sitting position, without golfer 35 having
24 to stoop or bend.

25 In similar fashion, golfer 35 can retrieve and replace of a divot, or clump of grass
26 dislodged from the ground during play on the fairway. Proper use of irons requires that
27 golfer 35 strike downward, through ball 31. This causes his swing to reach bottom below
28 ground, often causing a clump, or divot, of grass to be thrown forward. Using tool 1, golfer
29 35 can retrieve this divot by snagging it with prongs 9 and drop it back into the original
30 position, all without bending or stooping. Tool 1 works in this fashion better than a golf club

1 head 27 because of the sharp points of prongs 9, which tend to penetrate the divot and retain
2 it from sliding off.

3 Referring now to Figures 12 and 13, use of tools 1 and 101 to keep grip 21 clean and
4 dry is demonstrated. Again assuming tool 1 or 101 is installed onto grip 21 end of club 23,
5 golfer 35 simply lays it on ground 29, largely by placing head 27 onto ground 29 and simply
6 dropping grip 21. As grip 21 falls to ground 29, it brings tools 1, 101 into contact with
7 ground 29 before grip 21 can reach ground 29.

8 As shown in Figure 4, tang 5 is oriented parallel to the flat side of grip 21. This flat
9 side of grip 21 typically is installed and oriented on shaft 25 such that it is oriented toward
10 the back of club 23, away from head 27, so that golfer 35's fingers engage it while addressing
11 the ball with club 23. Thus, when tool 1 is inserted into slot 19, prongs 9 become oriented
12 perpendicular to head 27, to one side or the other depending upon which orientation golfer 35
13 chooses (see discussion above). In either orientation of tool 1, when golfer 35 drops grip 21
14 to lay club 23 on the ground, he simply notes to which side of grip 21 prongs 9 extend, and
15 drops grip 21 to that side so that prongs 9 engage ground 29 as depicted in Figure 12.

16 When using tool 101, golfer likewise drops grip 21 such that the edge of shelf 107
17 engages ground 29, as depicted in Figure 13. In this case, tool 101 typically would be
18 installed onto grip 21 with shelf 107 oriented away from head 27 and onto the flat side of
19 grip 21. Because of the extra weight of tool 101, it will cause club 23 to fall such that head
20 27 points upward from ground 29 (not shown). In fact, because of the extra weight of tool
21 101, regardless of which side of grip 21 it is installed on, club 23 likely will fall such that
22 shelf 107 engages ground 29 as depicted in Figure 13.

23 Thus, grip 21 will remain suspended above ground 29 as depicted in Figures 12, 13
24 until golfer 35 retrieves club 23. Grip 21 stays above ground 29, avoiding becoming soiled
25 or damp from moisture on ground 29. To retrieve club 23, golfer 35 can hook another golf
26 club under shaft 25 or under grip 21 (not shown) and raise grip 21 end of club 23 to a
27 position where he can grasp it with his free hand. Neither dropping nor retrieving club 23 as
28 described requires golfer 35 to stoop or bend in the process.

1 Finally, tools 1, 101 may be employed to retrieve other objects from the ground, such
2 as other clubs, the pin flag or the like. Simply slipping prongs 9, 109 under the shaft (not
3 shown) of the pin flag or a club shaft and lifting can elevate the club grip or the flag so that
4 golfer 35 need not stoop to pick them up. Likewise, tools 1, 101 can be employed in similar
5 fashion to retrieve ball 31 from the surface of ground 29, whether flat or not. Golfer 35
6 simply would place shelf 7, 107 adjacent ball 31 and urge ball 31 onto shelf 7, 107, using his
7 toe 39 if necessary, while gently tilting shaft 25 away from himself until ball 31 rests against
8 body 3, 103 and backstop 13, 113, then lifting club 23 until he can secure ball 31 with his
9 other hand without stooping or bending.

10
11 The present invention, described in either its preferred or alternate embodiment, thus
12 serves a golfer of limited physical mobility in performing many of the functions required to
13 participate in the sport of golf. This invention allows a person to retrieve a golf ball 31, to
14 repair a golf ball mark 37, to retrieve a golf club 23 lying on the ground and to replace a divot
15 on the fairway, all without bending or stooping.

16 While the invention has been particularly shown and described with reference to one
17 or more embodiments, it will be understood by those skilled in the art that various changes in
18 form and detail may be made therein without departing from the spirit and scope of the
19 invention. For example, the figures depict backstop 13, 113 as having a width approximately
20 that of golf ball 31, but substantial variations in the width of backstop 13, 113 may be
21 appropriate to keep golf ball 31 captive. Likewise, the length of body 3 can have substantial
22 variations and still allow golfer 35 to perform all of the intended functions of tool 1, 101.
23 Also, instead of strap 105, tool 101 could attach by means of a rubberized cup stretched and
24 fitted onto the end of grip 21 with the body 3 being coupled to the cup.

25 Further, the orientation of prongs 9, 109 is chosen to enhance golfer 35's ease in
26 repairing ball marks while standing, as depicted in Figure 10, while cooperating in ball
27 retrieval from a flag cup, as depicted in Figure 9. Prongs 9, 109 could, however, extend in a
28 different plane from shelf 7, 107 to change the angle (Figures 10, 11) at which shaft 25 is
29 held while repairing ball mark 37.